

## Chapter 4 Matrices TEST Review

1. Daryl asked the players on two mens' and women's tennis teams what color their new uniforms should be: red, blue, or green. He recorded the results in two matrices. Find the total for the two teams.

Team 1		Team 2	
Men	$\begin{bmatrix} \text{R} & \text{B} & \text{G} \\ 2 & 0 & 6 \end{bmatrix}$	Men	$\begin{bmatrix} \text{R} & \text{B} & \text{G} \\ 7 & 3 & 5 \end{bmatrix}$
Women	$\begin{bmatrix} 7 & 4 & 5 \end{bmatrix}$	Women	$\begin{bmatrix} 1 & 6 & 8 \end{bmatrix}$

2. Perform the indicated operations on the given matrices.

$$6 \begin{bmatrix} 8 & -5 & 0 \\ 1 & -2 & -8 \end{bmatrix}$$

3. Find the inverse of the following matrix (if it exists):  $\begin{bmatrix} 1 & -1 & -1 \\ -1 & 0 & 1 \\ 0 & 1 & 1 \end{bmatrix}$

4. Find the determinant, and tell whether the matrix has an inverse.

$$\det \begin{bmatrix} 6 & 10 \\ 2 & -1 \end{bmatrix}$$

5. Write the system of equations as a matrix equation. Then solve the system, if possible, by using a

matrix equation. If not possible, classify the system. 
$$\begin{cases} x + 3y + z = -20 \\ 2x + 7y + 3z = -44 \\ x - y - z = 0 \end{cases}$$

6. Classify the following system of equations as inconsistent, dependent, or independent:

$$\begin{cases} -5x + 6y + 2z = 6 \\ -10x - 18y - 4z = -70 \\ 10x + 12y + 4z = 52 \end{cases}$$

## Chapter 4 Matrices TEST Review

7. Solve the system of equations by finding the reduced row-echelon form of the augmented matrix for the following system of equations:

$$\begin{cases} x - 2y + z = -2 \\ 3x - 5y - 9z = 3 \\ 2x - 6y + 27z = -3 \end{cases}$$